

(1) APPLICANT: KREIDER, ERIC L.  
KUBEN, STEVEN M.  
OLSEN, HENRIK S.

(ii) TITLE OF INVENTION: CHEMOKINE  $\beta$ -6 ANTAGONISTS

(iii) NUMBER OF SEQUENCES: 114

(iv) CORRESPONDENCE ADDRESS:

(A) ADDRESSEE: STEPNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.  
(B) STREET: 1100 NEW YORK AVENUE, SUITE 600  
(C) CITY: WASHINGTON  
(D) STATE: DC  
(E) COUNTRY: USA  
(F) ZIP: 20005-3934

(v) COMPUTER READABLE FORM:

(A) MEDIUM TYPE: Floppy disk  
(B) COMPUTER: IBM PC compatible  
(C) OPERATING SYSTEM: PC-DOS/MS-DOS  
(D) SOFTWARE: PatentIn Release #1.0, Version #1.35

(V1) CURRENT APPLICATION DATA:

(A) APPLICATION NUMBER: To be assigned  
(E) FILING DATE: Herewith  
(C) CLASSIFICATION:

(vii) PRIOR APPLICATION DATA:

(A) APPLICATION NUMBER: 60-142,269  
(B) FILING DATE: 31-MAR-1997

(viii) ATTORNEY/AGENT INFORMATION:

(A) NAME: STEFFE, ERIC K  
(B) REGISTRATION NUMBER: A6,688  
(C) REFERENCE/DOCUMENT NUMBER: 1488.0340004

(ix) TELECOMMUNICATION INFORMATION:

(A) TELEPHONE: 202-371-2500  
(B) TELEFAX: 202-371-2540

## (1) INFORMATION FOR THE PUBLIC:

[illegible]

(7) LENGTH: 1000000000  
(8) TYPE: 1000000000  
(9) STREAM LENGTH: 1000000000  
(10) TIME: 1000000000

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

Figure 1. The effect of the concentration of the solution on the adsorption of the dye. The concentration of the solution was 0.01, 0.02, 0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.5, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 15.0, 20.0, 30.0, 40.0, 50.0, 60.0, 70.0, 80.0, 90.0, 100.0, 150.0, 200.0, 300.0, 400.0, 500.0, 600.0, 700.0, 800.0, 900.0, 1000.0, 1500.0, 2000.0, 3000.0, 4000.0, 5000.0, 6000.0, 7000.0, 8000.0, 9000.0, 10000.0, 15000.0, 20000.0, 30000.0, 40000.0, 50000.0, 60000.0, 70000.0, 80000.0, 90000.0, 100000.0, 150000.0, 200000.0, 300000.0, 400000.0, 500000.0, 600000.0, 700000.0, 800000.0, 900000.0, 1000000.0, 1500000.0, 2000000.0, 3000000.0, 4000000.0, 5000000.0, 6000000.0, 7000000.0, 8000000.0, 9000000.0, 10000000.0, 15000000.0, 20000000.0, 30000000.0, 40000000.0, 50000000.0, 60000000.0, 70000000.0, 80000000.0, 90000000.0, 100000000.0, 150000000.0, 200000000.0, 300000000.0, 400000000.0, 500000000.0, 600000000.0, 700000000.0, 800000000.0, 900000000.0, 1000000000.0, 1500000000.0, 2000000000.0, 3000000000.0, 4000000000.0, 5000000000.0, 6000000000.0, 7000000000.0, 8000000000.0, 9000000000.0, 10000000000.0, 15000000000.0, 20000000000.0, 30000000000.0, 40000000000.0, 50000000000.0, 60000000000.0, 70000000000.0, 80000000000.0, 90000000000.0, 100000000000.0, 150000000000.0, 200000000000.0, 300000000000.0, 400000000000.0, 500000000000.0, 600000000000.0, 700000000000.0, 800000000000.0, 900000000000.0, 1000000000000.0, 1500000000000.0, 2000000000000.0, 3000000000000.0, 4000000000000.0, 5000000000000.0, 6000000000000.0, 7000000000000.0, 8000000000000.0, 9000000000000.0, 10000000000000.0, 15000000000000.0, 20000000000000.0, 30000000000000.0, 40000000000000.0, 50000000000000.0, 60000000000000.0, 70000000000000.0, 80000000000000.0, 90000000000000.0, 100000000000000.0, 150000000000000.0, 200000000000000.0, 300000000000000.0, 400000000000000.0, 500000000000000.0, 600000000000000.0, 700000000000000.0, 800000000000000.0, 900000000000000.0, 1000000000000000.0, 1500000000000000.0, 2000000000000000.0, 3000000000000000.0, 4000000000000000.0, 5000000000000000.0, 6000000000000000.0, 7000000000000000.0, 8000000000000000.0, 9000000000000000.0, 10000000000000000.0, 15000000000000000.0, 20000000000000000.0, 30000000000000000.0, 40000000000000000.0, 50000000000000000.0, 60000000000000000.0, 70000000000000000.0, 80000000000000000.0, 90000000000000000.0, 100000000000000000.0, 150000000000000000.0, 200000000000000000.0, 300000000000000000.0, 400000000000000000.0, 500000000000000000.0, 600000000000000000.0, 700000000000000000.0, 800000000000000000.0, 900000000000000000.0, 1000000000000000000.0, 1500000000000000000.0, 2000000000000000000.0, 3000000000000000000.0, 4000000000000000000.0, 5000000000000000000.0, 6000000000000000000.0, 7000000000000000000.0, 8000000000000000000.0, 9000000000000000000.0, 10000000000000000000.0, 15000000000000000000.0, 20000000000000000000.0, 30000000000000000000.0, 40000000000000000000.0, 50000000000000000000.0, 60000000000000000000.0, 70000000000000000000.0, 80000000000000000000.0, 90000000000000000000.0, 100000000000000000000.0, 150000000000000000000.0, 200000000000000000000.0, 300000000000000000000.0, 400000000000000000000.0, 500000000000000000000.0, 600000000000000000000.0, 700000000000000000000.0, 800000000000000000000.0, 900000000000000000000.0, 1000000000000000000000.0, 1500000000000000000000.0, 2000000000000000000000.0, 3000000000000000000000.0, 4000000000000000000000.0, 5000000000000000000000.0, 6000000000000000000000.0, 7000000000000000000000.0, 8000000000000000000000.0, 9000000000000000000000.0, 10000000000000000000000.0, 15000000000000000000000.0, 20000000000000000000000.0, 30000000000000000000000.0, 40000000000000000000000.0, 50000000000000000000000.0, 60000000000000000000000.0, 70000000000000000000000.0, 80000000000000000000000.0, 90000000000000000000000.0, 100000000000000000000000.0, 150000000000000000000000.0, 200000000000000000000000.0, 300000000000000000000000.0, 400000000000000000000000.0, 500000000000000000000000.0, 600000000000000000000000.0, 700000000000000000000000.0, 800000000000000000000000.0, 900000000000000000000000.0, 10000000

Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains. The *Agrobacterium* strains were grown in the medium containing 100 mg/l of tetracycline. The cell concentration of the *Agrobacterium* strains was adjusted to 10<sup>8</sup> cells/ml. The cell suspension was mixed with the plant tissue and the transformation efficiency was determined. The results were expressed as the mean  $\pm$  SD. The different letters indicate significant differences ( $P < 0.05$ ) according to the Duncan's multiple range test.

(A) NAME/KEY: sig peptide  
(B) LOCATION: 1..78

(ix) FEATURES:

(A) NAME/KEY: sig peptide  
(B) LOCATION: 79..197

(xi) SEQUENCE DESCRIPTION: SEQ ID NUMBER:

ATG GCA GGC CTG ATG ACC ATA GTA AAG AGI CTT CTC TTC CTT GST GTC	48
Met Ala Gly Leu Met Thr Ile Val Thr Ser Leu Leu Phe Leu Gly Val	
-26 -25 -20 -15	
TGT GGC CAC CAG ATC ATC CCT AAG GGC TGT GTG GTC ATA CCC TCT CCC	96
Cys Ala His His Ile Ile Ile Thr Gly Ser Val Val Ile Pro Ser Phe	
-10 -5 1 5	
TGC TGC ATG TTC TTT GTT TCC AAG AGA ATT CTT GAG AAC CGA GTG GTC	144
Cys Cys Met Phe Phe Val Ser Lys Arg Ile Phe Glu Asn Arg Val Val	
10 15 20	
AGC TAC CAG CTG TCC AGC AGG AGC ACA TGC CTC AAG GCA GGA GTG ATC	192
Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala Gly Val Ile	
25 30 35	
TTG AGC AAG AAG AAG GGC CAG TAT TTC TGT GAT TAT CCG AAG CAG CAG	240
Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Arg Pro Lys Gln Gln	
40 45 50	
TGG GTC CAG AAG TAT ATG AAG AAG CTT GAT TAT AAG CAG AAG AAG GCT	288
Trp Val Ala Ala Tyr Met Lys Asn Leu Arg Ala Lys Gln Lys Lys Ala	
55 60 65 70	
TCC CCT AAG GGC AAG GCA GTG GGT GTC AAG GGC CTT GTC CAG AGA TAT	336
Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Phe Val Gln Arg Tyr	
75 80 85	
CCT GGC AAG CAG ACC AAG TGT TAA	384
Phe Gly Asn Gln Thr Thr Cys	
90	

(x) INFORMATION FOR USE: (1) NAME:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 117 amino acids  
(B) TYPE: protein  
(C) SOURCE: human

(ii) MINIMUM LENGTH: 117

(iii) SEQUENCE INFORMATION: (1) NAME:

Met Ala Gly Leu Met Thr Ile Val Thr Ser Leu Leu Phe Leu Gly Val

Tyr Ala His His Ile Ile Ile Thr Gly Ser Val Val Ile Pro Ser Phe

[illegible]

## (2) INFORMATION FOR SF9 ID NO: 3:

- (1) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 20 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double  
 (D) TOPOLOGY: linear

(22) R. L. NELSON, *WATER: ILLUSION OR REALITY* (1967, 1974).

## XII. ACCEPTED FOR PUBLICATION: APRIL 11, 1967.

TABLE 1. *Salmonella* serotypes

U.S. DEPARTMENT OF THE ARMY

- ```

(4) SEQUENCE CHARACTERISTICS:
    (a) LENGTH: 2 base pairs
    (b) TYPE: nucleic acid
    (c) STRANEDNESS: double
    (d) TOPOLOGY: linear

```

[illegible][illegible]

Figure 1. The effect of the concentration of the *Agaricus bisporus* spores on the growth of *Agaricus bisporus* and *Agaricus bisporus* spores on the growth of *Agaricus bisporus*.

the 1990s, the number of people in the world who are under 15 years of age is expected to increase by 1.5 billion, from 1.1 billion in 1990 to 2.6 billion in 2010. The number of people aged 65 and over is expected to increase by 1 billion, from 350 million in 1990 to 1.4 billion in 2010. The number of people aged 15-64 is expected to increase by 1.5 billion, from 1.1 billion in 1990 to 2.6 billion in 2010. The number of people aged 65 and over is expected to increase by 1 billion, from 350 million in 1990 to 1.4 billion in 2010. The number of people aged 15-64 is expected to increase by 1.5 billion, from 1.1 billion in 1990 to 2.6 billion in 2010.

- [illegible]

Figure 1. The effect of the number of trials on the number of correct responses. The number of correct responses was significantly higher than the number of incorrect responses in all conditions. Error bars represent the standard error of the mean.

(x1) SEQUENCE DESCRIPTION: SEQ ID NO:5:

Met Lys Val Phe Ala Ala Leu Leu Cys Leu Leu Leu Ile Ala Ala Thr  
 1 5 10 15  
 Phe Ile Pro Gln Gly Leu Ala Gln Pro Asp Ala Ile Asn Ala Pro Val  
 20 25 30  
 Thr Cys Cys Tyr Asn Phe Thr Asn Arg Lys Ile Ser Val Gln Arg Leu  
 35 40 45  
 Ala Ser Tyr Arg Arg Ile Thr Ser Ser Lys Cys Pro Lys Gln Ala Val  
 50 55 60  
 Ile Phe Lys Thr Ile Val Ala Lys Gln Ile Cys Ala Asp Pro Lys Gln  
 65 70 75 80  
 Lys Trp Val Gln Asp Ser Met Asp His Leu Asp Lys Gln Thr Gln Thr  
 85 90 95  
 Pro Lys Thr

(2) INFORMATION FOR SEQ ID NO:6:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 285 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(x1) SEQUENCE DESCRIPTION: SEQ ID NO:6:

ATGGTGGTTA TACCTTCTCC GTGCTGCATG TTCTTTGTTA GCAAGCGCAT TCCTGAAAAC 60  
 CGTGTGGTCA GTATACACT GTCCAGCAG AGCACTGCC TGAAGGCTGG GTTGATTTT 120  
 ACCAGAAAA AGGAGAGCA GTTCTGTAT GATCCAAA AAAGTGGT GAGAGTTA 180  
 ATGAAAAA TAAAGAAA ACAGAAATA GTTTATTT GTTAAAGAA ATGAGTTA 240  
 AAAAGAGTT GTGAGTTA TAAAGGAAA CAAATAAT GTTAA 300

(2) INFORMATION FOR SEQ ID NO:7:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 285 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA



10

44

(2) INFORMATION FOR SEQ ID NO:11:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 31 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

GGGGSATCCC CATATGGTGG TTATACCTTC TCCG

34

(2) INFORMATION FOR SEQ ID NO:12:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 32 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

GACTGGTACC TTAGCAGGTG GTTGGTGG AC

37

(2) INFORMATION FOR SEQ ID NO:13:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 30 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

CACTAATAC TTATACAAA CCAACAT TCTCTT

40

(2) INFORMATION FOR SEQ ID NO:14:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 31 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:  
GACTGCTATG CTTATACCTT CTCCGTGCTG CATG

37

(2) INFORMATION FOR SEQ ID NO:14:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 34 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:  
GACTCATATG GTTATACCTT CTCCGTGCTG CATG

34

(2) INFORMATION FOR SEQ ID NO:15:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 31 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:  
GACTCATATG ATACTCTTC CTTGCTATAT G

31

(2) INFORMATION FOR SEQ ID NO:16:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 31 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:  
GACTCATATG ATACTCTTC CTTGCTATAT G

31

(2) INFORMATION FOR SEQ ID NO:17:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 31 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

GACTCATATG TCTCGTGCT GCATGTTCTT TG

32

(2) INFORMATION FOR SEQ ID NO:19:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 29 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

GACTCATATG CCGTGCTGCA TGTTCCTTG

29

(2) INFORMATION FOR SEQ ID NO:20:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 30 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

GACTCATATG TGTGATATGT TCTTCTTATG

30

(2) INFORMATION FOR SEQ ID NO:21:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 40 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

GACTCATATG TGTGATATGT TCTTCTTATG TGTGATATGT TCTTCTTATG

CAATTCTGAG CCGATAAATA TTTCACACAT TAAAGAGGAG AAATTACATA TGGTGGTTAT 120  
 AGCTTCTGAG TCTGATCTGT TCTTTTCTAG CAAGCGCATT CCTGAAAACC GTGTGGTCAG 180  
 CTAAGAATG TCGAGGAGCA GCACTGCTGT GAAAGGTGGC GTGATCTTCA CCAACAAAAA 240  
 GGGGAGGAG TCTGCTGAG ACCCGAACA AGAGTGGGTC CAGCGTTACA TGAAAAACCT 300  
 GGAGGTAAA CAGAGAAAAG CTTCCTCTCG TGCCCGGGCA GTGGCTGTCA AAGGCTCTGT 360  
 TCAGGTTAT CCGGCAACC AATCACCTG CTAAGGTACC TAAGTGAGTA GGGCGTCCGA 420  
 TCGAGGAG CTTTTTTTTT GAATTCGTAA TCATGCTCAT AGCTGTTTCC TGTGTGAAAT 480  
 TGTATCTCG TCAATATCC ACACAACATA CGAGCCGGAA GCATAAAGTG TAAAGCCTGG 540  
 GGTGCTAAT GGTGAGGTA ACTCACATTA ATTGCTTGC GCTCACTGCC CGCTTTCCAG 600  
 TCGGAAAGC TGTGCTGCA GCTGCATTAA TGAATGGGC AACGCGCGGG GAGAGGGGT 660  
 TTGGCTATTG GGGCTCTTC CGCTTCTCG CCACTGACT CGCTGCGCTC GGTGCTTCGG 720  
 CTGGCTGAG CGSTATCAGC TCACTCAAAG GCGGTAATAC GGTATCCAC AGAATCAGGG 780  
 GATAAGGAG GAGAGACAT GTGAGCAAAA GCGCAGCAA AGGCCAGGAA CCGTAAAAAG 840  
 GCGATCTG TGTGTTTTT CCATAGGCTC CGGCTCTCTG AGGAGCATCA CAAAAATCGA 900  
 CGCTCAATG AGAGGTGCG AAACCCGACA GGACTATAAA GATACCAGGC GTTCTCCCT 960  
 GGAATCTG TGTGCTGCTG TGTGTTCTG ACCCTGCTG TTAGGGATA CTTGCTCGCC 1020  
 TTTCTCTT CAAAGCTT GGGCTCTT CATATGAC GCTGTAGTA TCTGATCTG 1080  
 GTGTAGTCT TGTGCTCAA GCTGGCTGT GTGAGGAA CCCCCGTCA GCGGAGCGC 1140  
 TCGATCTAT CCGTAA TA TCGTCTTGA TCAACCGG TAAGACACGA CTTATCGCA 1200  
 CTGAGGAG CAGTGTGTA CAGGATTAG AGAGGAGGT ATGAGGCGG TGTAGAGAG 1260  
 TTCTTAAST GGTGCTTAA CTAGGCTAC ACTAGAAGAA CAGTATTTGG TATCTGCT 1320  
 CTGTAAGG CAGTAATT CCGAAAAAA GTTCTATCT CTTGATCTG CAAATAAACC 1380  
 AATCTATA CAGTCTTT TTTTCTTT AATCTATA TTAAGGAG AAAAAAGGA 1440  
 TCTAAGAA ATCTTAT TTTTAAAT CAGTCTTA TTAAGGAG AAAAAAGGA 1500  
 CAGTCTTA TTTTCTTT CAGTCTTA TTAAGGAG AAAAAAGGA 1560  
 AATCTATA CAGTCTTT TTTTCTTT AATCTATA TTAAGGAG AAAAAAGGA 1620  
 TCTAAGAA ATCTTAT TTTTAAAT CAGTCTTA TTAAGGAG AAAAAAGGA 1680  
 CAGTCTTA TTTTCTTT CAGTCTTA TTAAGGAG AAAAAAGGA 1740  
 AATCTATA CAGTCTTT TTTTCTTT AATCTATA TTAAGGAG AAAAAAGGA 1800  
 TCTAAGAA ATCTTAT TTTTAAAT CAGTCTTA TTAAGGAG AAAAAAGGA 1860  
 CAGTCTTA TTTTCTTT CAGTCTTA TTAAGGAG AAAAAAGGA 1920  
 AATCTATA CAGTCTTT TTTTCTTT AATCTATA TTAAGGAG AAAAAAGGA 1980  
 TCTAAGAA ATCTTAT TTTTAAAT CAGTCTTA TTAAGGAG AAAAAAGGA 2040  
 CAGTCTTA TTTTCTTT CAGTCTTA TTAAGGAG AAAAAAGGA 2100  
 AATCTATA CAGTCTTT TTTTCTTT AATCTATA TTAAGGAG AAAAAAGGA 2160  
 TCTAAGAA ATCTTAT TTTTAAAT CAGTCTTA TTAAGGAG AAAAAAGGA 2220  
 CAGTCTTA TTTTCTTT CAGTCTTA TTAAGGAG AAAAAAGGA 2280  
 AATCTATA CAGTCTTT TTTTCTTT AATCTATA TTAAGGAG AAAAAAGGA 2340  
 TCTAAGAA ATCTTAT TTTTAAAT CAGTCTTA TTAAGGAG AAAAAAGGA 2400  
 CAGTCTTA TTTTCTTT CAGTCTTA TTAAGGAG AAAAAAGGA 2460  
 AATCTATA CAGTCTTT TTTTCTTT AATCTATA TTAAGGAG AAAAAAGGA 2520  
 TCTAAGAA ATCTTAT TTTTAAAT CAGTCTTA TTAAGGAG AAAAAAGGA 2580  
 CAGTCTTA TTTTCTTT CAGTCTTA TTAAGGAG AAAAAAGGA 2640  
 AATCTATA CAGTCTTT TTTTCTTT AATCTATA TTAAGGAG AAAAAAGGA 2700  
 TCTAAGAA ATCTTAT TTTTAAAT CAGTCTTA TTAAGGAG AAAAAAGGA 2760  
 CAGTCTTA TTTTCTTT CAGTCTTA TTAAGGAG AAAAAAGGA 2820  
 AATCTATA CAGTCTTT TTTTCTTT AATCTATA TTAAGGAG AAAAAAGGA 2880  
 TCTAAGAA ATCTTAT TTTTAAAT CAGTCTTA TTAAGGAG AAAAAAGGA 2940  
 CAGTCTTA TTTTCTTT CAGTCTTA TTAAGGAG AAAAAAGGA 3000

|                                                                   |      |
|-------------------------------------------------------------------|------|
| GGGTGCCAGC GTGGTGGTGT CGATGGTAGA ACGAAGCGGC GTCGAAGCCT GTAAAGCGGC | 1980 |
| GGTGGACAT CTTCTGGGGT AACGGGTGAG TGGGTGATC ATTAAGTATC CGCTGATGA    | 2040 |
| CCAGGATGCC ATTGTTGTGG AAGTGTGCTG CACTAATGTT CCGGGGTTAT TTCTTATGT  | 2100 |
| CTCTGACCAG ACACCCATCA ACASTATTAT TTTCTCCCAT GAAGACGGTA GTCGATGGG  | 2160 |
| CGTGGAGCAT CTGGTGGCAT TGGGTACCA GCAAATCGCG CTGTTAGCGG GGGCATTAAG  | 2220 |
| TTCTGTCTCG GCGCGTCTGC GTCTGGGTGG CTGGCATAAA TATCTCACTC GCAATCAAT  | 2280 |
| TCAGCCGATA GCGGAACGGG AAGGCGACTG GAGTGCCATG TCCGGTTTTC AACAAACCAT | 2340 |
| GCAAATGCTG AATGAGGGCA TCGTTCCAC TCGATGCTG GTTGCCAACG ATCAGATGGC   | 2400 |
| GCTGGGCGCA ATGCGCGCCA TTACCGAGTC CGGGCTGCGC GTTGGTSCGG ATATCTCGGT | 2460 |
| AGTGGGATAC GACGATACCG AAGACAGCTC ATGTTATATC CCGCGTTAA CCAATCAAA   | 2520 |
| ACAGGATTTT CCCCTGCTGG GGCAAACCG CGTGGACCGC TTGCTGCAAC TCTCTAGGG   | 2580 |
| CCAGGCGGTG AAGGGCAATC AGCTGTTGCC CGTCTCACTG GTGAAAGAA AAACACCCCT  | 2640 |
| GGCGCCCAAT ACGCAAACCG CCTCTCCCCG CGCGTTGGCC GATTCATTAA TSCAGCTGGC | 2700 |
| ACGACAGGTT TCCCGACTGG AAAGGGGGCA GTGAGCGCAA CGCAATTAAT GTAAATTAGC | 2760 |
| GCGAATTGTC GACCAAACCG GCCATCGTGC CTCCTCACTC CTGCACTTCG GGGGATGGA  | 2820 |
| TGCGCGSATA GCGCTGCTG GTTCTCTGGA TGCCGACGGA TTTCGATGCT CGGTAGAACT  | 2880 |
| CGCGGAGSTC GTCCAGCTC AGGAGTAGC TGAACCAACT CGGAGGGA TAGAGTCGG      | 2940 |
| GGTGGGCGAA GAATCCAGC ATGAGATCCC CGCGCTGGAG GATCATCAG CGGAGTCCC    | 3000 |
| GGAAGACGAT TCGAAGGCC AACCTTTCAT AGAAGCGGCG GTGCAATCG AATCTCTGT    | 3060 |
| ATGGCAGGTT GGGGCTGCTT TGGTCTGCA TTTCGAACCC CAGAGTCGCT CTCAGAGAA   | 3120 |
| CTGCTCAAGA AGCGGATAGA AGGCGATGCG CTGCGAATCG GGAGCGGGA TACGTAAG    | 3180 |
| CACGAGGAAG CGGTACGCC ATTCGCGCTT AAGCTCTTCA GCAATATCA GTTATGAA     | 3240 |
| CGCTATGTCC TGATAGGAT TACGAGAC CAGAGGGA CAATGATTA ATGAGGAA         | 3300 |
| GAGGCAATTT TGAAGATTA TATGAGGAA GAGGATCG CATATTA ATGAGGAT          | 3360 |
| CTAGGATTA GATATGAG GTTGAATTT GGGGAGGAT TGAATTA ATGAGGAT           | 3420 |
| ATCTCTTA TGAAGATTA TGAAGATTA AAGAGGAT TGAAGATTA ATGAGGAT          | 3480 |
| TGAAGATTA TGAAGATTA TGAAGATTA TGAAGATTA TGAAGATTA ATGAGGAT        | 3540 |
| TGAAGATTA TGAAGATTA TGAAGATTA TGAAGATTA TGAAGATTA ATGAGGAT        | 3600 |
| TGAAGATTA TGAAGATTA TGAAGATTA TGAAGATTA TGAAGATTA ATGAGGAT        | 3660 |
| TGAAGATTA TGAAGATTA TGAAGATTA TGAAGATTA TGAAGATTA ATGAGGAT        | 3720 |
| TGAAGATTA TGAAGATTA TGAAGATTA TGAAGATTA TGAAGATTA ATGAGGAT        | 3780 |
| TGAAGATTA TGAAGATTA TGAAGATTA TGAAGATTA TGAAGATTA ATGAGGAT        | 3840 |

|                                                                    |      |
|--------------------------------------------------------------------|------|
| CTTGGGTGAC AGCCGGAACA CGGCGGATC AGAATAGGAT ATTGTCTGTT GTGGGAGTC    | 4040 |
| ATAGCGGAAT AGCCTCTCCA CCCAAGGAGC CGGAGAACT GCGTGAATC CATCTTCTTC    | 4060 |
| AATGATGAGA AACGATCCTC ATCTGCTCT TGAATGAT CTGATCTCC TGGGATATTA      | 4080 |
| GATCTTTGGC GSCAAGAAAG CCATCCATTT TACTTTGGAG GGCTTCCCAA CCTTACAAJA  | 4100 |
| GGGCGGCCCCA GCTGGCAATT CCGGTTCTCT TGTGTCTCAT AAAACGGCCC AGTCTAGETA | 4120 |
| TGCGCATGTA AGCCCACTGC AAGCTACCTG CTTTCTTTT GCGCTTGGGT TTTCCCTTGT   | 4140 |
| CGAGATAGCC CAGTAGTTGA CATTCTCTG GGGTCAAGC CGTTTCTGCG GACTGGCTTT    | 4200 |
| CTACGGTGTTC CGCTTCTTT AGCAGGCTTT GCGGCTGAG TGCTTGCGGC AGCGTG       | 4256 |

## (2) INFORMATION FOR SEQ ID NO:22:

(i) SEQUENCE CHARACTERISTICS:

- SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 112 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: double
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA.

(x1) SEQUENCE DESCRIPTION: TEL: 11-04-72:

AAG TTAAA AACTGTAALA AATA TTTC GA CTTTSAAG GATAGGATT AAGATNTAM 110  
 TATTSTAG CGGATACAA TTTCAT AT TAA GAGA AATTAATA TG 111

(2) INFORMATION FOR SEQ ID NO. 13:

## (1) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 45 amino acids  
(P) TYPE: amino acid  
(D) TOPOLOGY: linear

## (11) MOLECULE TYPE: PROTEIN

(11) SEQUENCE DEFINITION:  $\langle \mathbf{A}_i \rangle_{i \in \mathbb{N}}$ 

Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains.

- [illegible]

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Gln Asn  
1 5 10 15  
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala  
20 25 30  
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly  
35 40 45

(2) INFORMATION FOR SEQ ID NO:25:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 47 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Gln Asn  
1 5 10 15  
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala  
20 25 30  
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asn  
35 40 45

(2) INFORMATION FOR SEQ ID NO:26:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 48 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Gln Asn  
1 5 10 15  
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala  
20 25 30  
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asn  
35 40 45

Gly Val Ile Phe Thr Thr Lys Lys Gly Thr Gln Phe Cys Gly Asp Pro  
35 40 45

(2) INFORMATION FOR SEQ ID NO:27:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 49 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

Ile Ser Pro Cys Cys Met Phe Phe Val Ser Lys Ala Ile Phe Gln Asn  
1 5 10 15  
 Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala  
20 25 30  
 Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro  
35 40 45  
 Lys

(3) INFORMATION FOR SEQ ID NO:28:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 50 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

Ile Val Ile Cys Cys Met Phe Phe Val Ser Lys Ala Ile Phe Gln Asn  
1 5 10 15  
 Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala  
20 25 30  
 Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro  
35 40 45  
 Lys

(3) INFORMATION FOR SEQ ID NO:29:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 50 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Glu
50

```

(2) INFORMATION FOR SEQ ID NO:30:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 52 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Glu Trp
50

```

(2) INFORMATION FOR SEQ ID NO:31:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 52 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

\*\*\* SEQUENCE INFORMATION FOR SEQ ID NO:32 \*\*\*

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Leu Glu Arg  
1 10 15  
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala  
20 25 30  
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Phe  
35 40 45  
Lys Gln Glu Thr Val  
50

(2) INFORMATION FOR SEQ ID NO:32:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 54 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Phe Glu Arg  
1 10 15  
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala  
20 25 30  
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Phe  
35 40 45  
Lys Gln Glu Thr Val Gln  
50

(2) INFORMATION FOR SEQ ID NO:33:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 54 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Phe Glu Arg  
1 10 15  
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala  
20 25 30  
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Phe  
35 40 45  
Lys Gln Glu Thr Val Gln  
50

Lys Gln Gln Thr Val Gln Arg  
5' 35

(x) INFORMATION FOR SEQ ID NO:34:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 56 amino acids  
(B) TYPE: amino acid  
(C) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn  
1 5 10 15  
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala  
20 25 30  
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro  
35 40 45  
Lys Gln Gln Thr Val Gln Arg Tyr  
50 55

(.) INFORMATION FOR SEQ ID NO:35:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 57 amino acids  
(B) TYPE: amino acid  
(C) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:

Pro Ser Pro Tyr Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn  
1 5 10 15  
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala  
20 25 30  
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro  
35 40 45  
Lys Gln Gln Thr Val Gln Arg Tyr  
50 55

END OF SEQUENCE

1. The amino acid sequence of the protein of the invention is as set forth in SEQ ID NO:34 and SEQ ID NO:35.

(i) TOPOLOGY: linear  
(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys
50          55

```

(2) INFORMATION FOR SEQ ID NO:37:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 59 amino acids  
(B) TYPE: amino acid  
(C) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pr
35          40          45
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn
50          55

```

(2) INFORMATION FOR SEQ ID NO:38:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 59 amino acids  
(B) TYPE: amino acid  
(C) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Glu Thr Val Gln Arg Tyr Met Lys Asn Leu
50          55          60

```

(2) INFORMATION FOR SEQ ID NO:39:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 61 amino acids
  - (B) TYPE: amino acid
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:39:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Glu Thr Val Gln Arg Tyr Met Lys Asn Leu Asp
50          55          60

```

(2) INFORMATION FOR SEQ ID NO:40:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 61 amino acids
  - (B) TYPE: amino acid
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:40:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Glu Thr Val Gln Arg Tyr Met Lys Asn Leu Asp
50          55          60

```

50

55

60

(1) INFORMATION FOR SEQ ID NO:41:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 63 amino acids  
 (E) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:41:

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn  
 1 5 10 15  
 Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala  
 20 25 30  
 Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro  
 35 40 45  
 Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys  
 50 55 60

(2) INFORMATION FOR SEQ ID NO:42:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 64 amino acids  
 (E) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:42:

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn  
 1 5 10 15  
 Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala  
 20 25 30  
 Gly Val Ile Ile Thr Thr Lys Lys Tyr Gln Gln Ile Cys Gly Asp Pro  
 35 40 45  
 Lys Gln Glu Thr Val Ile Arg Tyr Met Trp Ala Ile Asp Ala Lys Gln  
 50 55 60

INFORMATION FOR SEQ ID NO:43:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 64 amino acids  
 (E) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:44:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Phe Glu Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Glu Thr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50          55          60
Lys
65

```

(2) INFORMATION FOR SEQ ID NO:44:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 66 amino acids
  - (B) TYPE: amino acid
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:44:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Phe Glu Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Glu Thr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50          55          60
Lys Lys
65

```

(2) INFORMATION FOR SEQ ID NO:44:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 66 amino acids
  - (B) TYPE: amino acid
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:

Pro Ser Pro Cys Cys Met Ile Ile Val Ser Lys Arg Ile Ile Gln Asn  
1 5 10  
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala  
20  
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro  
35 40 45  
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln  
50 55 60  
Lys Lys Ala  
65

(2) INFORMATION FOR SEQ ID NO:46:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 68 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:47:

Pro Ser Pro Cys Cys Met Ile Ile Val Ser Lys Arg Ile Ile Pro Gln Asn  
1 5 10  
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala  
20  
Gly Val Ile Ile Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Ile  
35 40 45  
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln  
50 55 60  
Lys Lys Ala Gln  
65

(2) INFORMATION FOR SEQ ID NO:47:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 68 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

Pro Ser Pro Cys Cys Met Ile Ile Val Ser Lys Arg Ile Pro Glu Asn  
1 5 15  
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala  
20 30 40  
Gly Val Ile Ile Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro  
35 40 45  
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln  
50 55 60  
Lys Lys Ala Ser Pro  
65

(ii) INFORMATION FOR SEQ ID NO:47:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 70 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:48:

Pro Ser Pro Cys Cys Met Ile Ile Val Ser Lys Arg Ile Pro Glu Asn  
1 5 10 15  
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala  
20 30 40  
Gly Val Ile Ile Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro  
45 50  
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln  
55 60  
Lys Lys Ala Ser Pro Arg  
65 70

(ii) INFORMATION FOR SEQ ID NO:49:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 71 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:49:

Pro Ser Pro Cys Cys Met Ile Ile Val Ser Lys Arg Ile Pro Glu Asn  
1 5 10 15  
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala  
20 30 40  
Gly Val Ile Ile Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro  
45 50  
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln  
55 60  
Lys Lys Ala Ser Pro Arg  
65 70

Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro  
 35 40 45  
 Lys Gln Gln Thr Val Gln Arg Tyr Met Lys Arg Leu Asp Ala Lys Gln  
 50 55 60  
 Lys Lys Ala Ser Pro Arg Ala  
 65 70

(v) INFORMATION FOR SEQ ID NO:50:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 72 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:50:

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn  
 1 5 10 15  
 Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala  
 20 25 30  
 Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro  
 35 40 45  
 Lys Gln Gln Thr Val Gln Arg Tyr Met Lys Arg Leu Asp Ala Lys Gln  
 50 55 60  
 Lys Lys Ala Ser Pro Arg Ala Arg  
 65 70

(v) INFORMATION FOR SEQ ID NO:51:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 73 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear  
 (ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:51:

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn  
 1 5 10 15  
 Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala  
 20 25 30  
 Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro  
 35 40 45  
 Lys Gln Gln Thr Val Gln Arg Tyr Met Lys Arg Leu Asp Ala Lys Gln  
 50 55 60  
 Lys Lys Ala Ser Pro Arg Ala Arg  
 65 70

Lys Lys Ala Ser Ile Arg Ala Arg Ala  
6 10

(2) INFORMATION FOR SEQ ID NO:52:

- (1) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 74 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:52:

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn  
1 5 10 15  
 Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala  
20 25 30  
 Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro  
35 40 45  
 Lys Gln Gln Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln  
50 55 60  
 Lys Lys Ala Ser Pro Arg Ala Arg Ala Val  
65 70

(2) INFORMATION FOR SEQ ID NO:53:

- (1) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 75 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:53:

Phe Phe Ile Tyr Tyr Met Ile Ile Val Ser Tyr Arg Ile Ile Glu Asn  
1 10 15  
 Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala  
20 25 30  
 Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro  
35 40 45  
 Lys Gln Gln Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln  
50 55 60  
 Lys Lys Ala Ser Pro Arg Ala Arg Ala Val  
65 70

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 77 amino acids  
 (B) TYPE: amino acid  
 (D) TOPIC: HY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:54:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Glu Tyr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50          55          60
Lys Lys Ala Ser Ile Arg Ala Arg Ala Val Ala Val
65          70          75

```

(x) INFORMATION FOR SEQ ID NO:55:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 77 amino acids  
 (B) TYPE: amino acid  
 (D) TOPIC: HY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:55:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Glu Tyr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50          55          60
Lys Lys Ala Ser Ile Arg Ala Arg Ala Val Ala Val
65          70          75

```

END OF SEQUENCE DESCRIPTION

SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 77 amino acids  
 (B) TYPE: amino acid  
 (D) TOPIC: HY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:56:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Gln Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Glu Thr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50          55          60
Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly
65          70          75

```

(2) INFORMATION FOR SEQ ID NO:57:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 79 amino acids
- (B) TYPE: amino acid
- (C) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:57:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Ile Gln Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Ile Cys Gly Asp Pro
35          40          45
Lys Gln Glu Thr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50          55          60
Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly
65          70          75

```

(2) INFORMATION FOR SEQ ID NO:58:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 79 amino acids
- (B) TYPE: amino acid
- (C) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(XIX) SEQUENCE DESCRIPTION: SEQ ID NO:19:

```

Pro Ser Pro Cys Cys Met Ile Ile Val Ser Lys Arg Ile Pro Glu Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Glu Lys Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50          55          60
Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro Val
65          70          75          80

```

(X) INFORMATION FROM SEQ ID NO:59:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 81 amino acids
  - (B) TYPE: amino acid
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: protein

(XX) SEQUENCE DESCRIPTION: SEQ ID NO:20:

```

Pro Ser Pro Cys Cys Met Ile Ile Val Ser Lys Arg Ile Pro Glu Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Glu Tyr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50          55          60
Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro Val
65          70          75          80

```

(XI) INFORMATION FROM SEQ ID NO:60:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 81 amino acids
  - (B) TYPE: amino acid
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: protein

(21) SEQUENCE DESCRIPTION: SEQ ID NO:60:

Pro Ser Pro Cys Cys Met Phe Ile Val Ser Lys Arg Ile Leu Glu Asn  
1 10  
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala  
20 30  
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro  
35 45  
Lys Gln Glu Thr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln  
50 60  
Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro Val  
65 80  
Gln Arg

(2) INFORMATION FOR SEQ ID NO:61:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 83 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(21) SEQUENCE DESCRIPTION: SEQ ID NO:61:

Pro Ser Pro Cys Cys Met Phe Ile Val Ser Lys Arg Ile Leu Glu Asn  
1 10  
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala  
20 30  
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro  
35 45  
Lys Gln Glu Thr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln  
50 60  
Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro Val  
65 80  
Gln Arg Tyr

(2) INFORMATION FOR SEQ ID NO:62:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 83 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(X1) SEQUENCE IDENTIFI NO: SEQ ID NO:61

1 10 20 30 40 50 60 70 80  
 Ile Ser Pro Tyr Cys Met His His Val Ser Lys Arg His Leu Gln Asn  
 1 10 20 30 40 50 60 70 80  
 Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala  
 1 10 20 30 40 50 60 70 80  
 Gly Val His His Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro  
 1 10 20 30 40 50 60 70 80  
 Lys Gln Gln Tyr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln  
 1 10 20 30 40 50 60 70 80  
 Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro Val  
 1 10 20 30 40 50 60 70 80  
 Gln Arg Tyr Phe

(2) INFORMATION FOR SEQ ID NO:62:

- (1) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 80 amino acids
  - (B) TYPE: amino acid
  - (C) TOPLOGY: linear

(11) MOLECULE TYPE: protein

(X1) SEQUENCE IDENTIFI NO: SEQ ID NO:63

1 10 20 30 40 50 60 70 80  
 Ile Ser Pro Tyr Cys Met His His Val Ser Lys Arg His Leu Gln Asn  
 1 10 20 30 40 50 60 70 80  
 Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala  
 1 10 20 30 40 50 60 70 80  
 Gly Val His His Thr Thr Lys Lys Gly Gln Gln His Cys Gly Asp Pro  
 1 10 20 30 40 50 60 70 80  
 Lys Gln Gln Tyr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln  
 1 10 20 30 40 50 60 70 80  
 Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro Val  
 1 10 20 30 40 50 60 70 80  
 Gln Arg Tyr Phe

(2) INFORMATION FOR SEQ ID NO:64:

- (1) SEQUENCE CHARACTERISTICS:
- (A) LENGTH: 80 amino acids
  - (B) TYPE: amino acid
  - (C) TOPLOGY: linear

(XII) SEQUENCE IDENTIFICATION: SEQ ID NO:64:

```

1  His Ser His Cys Cys Met His His Val Ser Lys Arg Ile Trp Gln Asn
   10
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
   25
Gly Val Ile His Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
   35
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
   50
Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro Val
   65
Gln Arg Tyr Pro Gly Asn
   80

```

(2) INFORMATION FOR SEQ ID NO:65:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 87 amino acids
  - (B) TYPE: amino acid
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(XII) SEQUENCE IDENTIFICATION: SEQ ID NO:68:

```

1  His Ser His Cys Cys Met His His Val Ser Lys Arg Ile Trp Gln Asn
   10
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
   25
Gly Val Ile His Thr Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
   40
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
   55
Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro Val
   70
Gln Arg Tyr Pro Gly Asn
   85

```

THE SEQUENCE OF THE PROTEIN IS:

- (i) SEQUENCE CHARACTERISTICS:
  - A. LENGTH: 87 amino acids
  - B. TYPE: amino acid
  - D. TOPOLOGY: linear

\* MOLECULE TYPE: protein

(X1) SEQUENCE DESCRIPTION: SEQ ID NO:66:

```

Pro Ser Ile Tyr Cys Met Ile Ile Val Ser Lys Arg Ile Ile Gln Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50          55          60
Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro Val
65          70          75          80
Gln Arg Tyr Pro Gly Asn Gln Thr
85

```

(2) INFORMATION FOR SEQ ID NO:67:

- (1) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 89 amino acids
  - (B) TYPE: amino acid
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: protein

(X1) SEQUENCE DESCRIPTION: SEQ ID NO:67:

```

Pro Ser Ile Cys Cys Met Ile Phe Val Ser Lys Arg Ile Pro Gln Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50          55          60
Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro Val
65          70          75          80
Gln Arg Tyr Pro Gly Asn Gln Thr
85

```

INFORMATION FOR SEQ ID NO:68:

- (1) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 89 amino acids
  - (B) TYPE: amino acid
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: protein



1  
 5  
 10  
 15  
 20  
 25  
 30  
 35  
 40  
 45  
 50  
 55  
 60  
 65  
 70  
 75  
 80  
 85  
 90

## 155

( i )

- (A) LENGTH: 46 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear

## (12)

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Pro | Ser | Pro | Cys | Cys | Met | Phe | Phe | Val | Ser | Lys | Arg | Ile | Pro | Gln |
| 1   |     |     |     | 9   |     |     |     |     | 10  |     |     |     |     | 19  |     |
| Asn | Arg | Val | Val | Ser | Tyr | Gln | Leu | Ser | Ser | Asn | Ser | Thr | Cys | Leu | Lys |
|     |     |     | 16  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Gly | Val | Ile | Phe | Thr | Thr | Lys | Lys | Gly | Gln | Gln | Phe | Cys |     |     |
|     |     | 32  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |

- (A) TYPE: 4' 11" 1/2" x 11" 1/2"  
 (B) TYPE: 11" 1/2" x 11" 1/2"  
 (C) TYPE: 11" 1/2" x 11" 1/2"

Ala Gly Val Ile Ile Thr Thr Lys Lys Gly Thr Ala Thr Thr Thr  
35 40 45

(2) INFORMATION FOR SEQ ID NO:71:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 48 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:71:

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu  
1 5 10 15  
 Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys  
20 25 30  
 Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp  
35 40 45

(2) INFORMATION FOR SEQ ID NO:72:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 49 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:72:

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu  
1 5 10 15  
 Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys  
20 25 30  
 Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp  
35 40 45

(2) INFORMATION FOR SEQ ID NO:73:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 49 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:73:

```

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Gln
1          5          10          15
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20          25          30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
35          40          45
Pro Lys
50

```

(2) INFORMATION FOR SEQ ID NO:74:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 51 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:74:

```

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Gln
1          5          10          15
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20          25          30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
35          40          45
Pro Lys Gln
50

```

(2) INFORMATION FOR SEQ ID NO:75:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 51 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:75:

```

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Gln
1          5          10          15
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20          25          30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
35          40          45
Pro Lys Gln
50

```

Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys  
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
 Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Ser  
 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40  
 Pro Lys Gln Gln  
 41 42 43 44 45 46 47 48 49 50

(2) INFORMATION FOR SEQ ID NO:76:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 53 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:76:

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Gln  
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
 Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys  
 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40  
 Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp  
 41 42 43 44 45 46 47 48 49 50  
 Pro Lys Gln Gln Thr  
 51 52 53 54 55 56 57 58 59 60

(2) INFORMATION FOR SEQ ID NO:77:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 54 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:77:

Met Ile Ser Ile Cys Tyr Met Ile Phe Val Asn Lys Ile Ile  
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
 Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys  
 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40  
 Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp  
 41 42 43 44 45 46 47 48 49 50  
 Pro Lys Gln Gln Thr  
 51 52 53 54 55 56 57 58 59 60

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 55 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:

```
Met Pro Ser Pro Cys Cys Met Phe Ile Val Ser Lys Arg Ile Phe Gln
1           5           10
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20           25           30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Arg
35           40           45
Pro Lys Gln Glu Trp Val Gln
50           55
```

(2) INFORMATION FOR SEQ ID NO: 7:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 56 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:

```
Met Pro Ser Pro Cys Cys Met Phe Ile Val Ser Lys Arg Ile Phe Gln
1           5           10
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20           25           30
Ala Gly Val Ile Ile Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Arg
35           40           45
Pro Lys Gln Glu Thr Val Gln Arg
50           55
```

(2) INFORMATION FOR SEQ ID NO: 8:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 57 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(XII) SEQUENCE DESCRIPTION: SEQ ID NO: 1

Met Ile Ser Ile Cys Cys Met Ile Thr Ser Ser Lys Arg Ile Pro Glu  
1  
Asp Arg Val Val Ser Tyr Val Leu Ser Ser Arg Ser Thr Cys Leu Lys  
20  
Ala Gly Val Ile Ile Thr Thr Lys Lys Lys Val Ile Thr Cys Gly Asp  
35  
Pro Lys Gln Glu Thr Val Val Arg Thr  
50

(XIII) INFORMATION FOR SEQ ID NO: 1

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 58 amino acids
  - (E) TYPE: amino acid
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: protein

(XIV) SEQUENCE DESCRIPTION: SEQ ID NO: 2

Met Pro Ser Pro Cys Cys Met Ile Thr Ser Ser Lys Arg Ile Pro Glu  
1  
Asp Arg Val Val Ser Tyr Val Leu Ser Ser Arg Ser Thr Cys Leu Lys  
20  
Ala Gly Val Ile Ile Thr Thr Lys Lys Lys Val Ile Thr Cys Gly Asp  
35  
Pro Lys Gln Glu Thr Val Val Arg Thr  
50

(XV) INFORMATION FOR SEQ ID NO: 2

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 58 amino acids
  - (E) TYPE: amino acid
  - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: protein

(XVI) SEQUENCE DESCRIPTION: SEQ ID NO: 3

Met Ile Ser Ile Cys Cys Met Ile Thr Ser Ser Lys Arg Ile Pro Glu  
1  
Asp Arg Val Val Ser Tyr Val Leu Ser Ser Arg Ser Thr Cys Leu Lys  
20  
Ala Gly Val Ile Ile Thr Thr Lys Lys Lys Val Ile Thr Cys Gly Asp  
35  
Pro Lys Gln Glu Thr Val Val Arg Thr  
50

11 Lys Gln His Thr Val Gln Arg Tyr Met Lys  
10

(i) INFORMATION FOR SEQ ID NO 11:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 60 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO 11:

Met Pro Ser Pro Cys Cys Met Thr Thr Val Ser Lys Arg Ile Pro Glu  
1 5 10  
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys  
20 25 30  
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Thr Cys Gly Asp  
35 40 45  
Pro Lys Gln Gln Thr Val Gln Arg Tyr Met Lys Asn  
50 55 60

(i) INFORMATION FOR SEQ ID NO 12:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO 12:

Met Pro Ser Pro Cys Cys Met Thr Thr Val Ser Lys Arg Ile Pro Glu  
1 5 10  
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys  
15 20 25 30  
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Thr Cys Gly Asp  
35 40 45  
Pro Lys Gln Gln Thr Val Gln Arg Tyr Met Lys Asn  
50 55 60

(i) INFORMATION FOR SEQ ID NO 13:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear

(1) MOLECULE TYPE: Protein

(X1) SEQUENCE IDENTIFICATION: SEQ ID NO:80

Met Phe Ser Phe Tyr Cys Met Phe Phe Val Ser Lys Arg Ile Phe Glu  
1 15  
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys  
20 25 30  
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp  
35 40 45  
Ile Lys Gln Glu Thr Val Gln Arg Tyr Met Lys Asn Leu Asp  
50 55 60

(2) INFORMATION FOR SEQ ID NO:80:

- (1) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 63 amino acids  
(B) TYPE: amino acid  
(C) TOPLOGY: linear

(11) MOLECULE TYPE: Protein

(X1) SEQUENCE IDENTIFICATION: SEQ ID NO:81

Met Ile Ser Ile Tyr Cys Met Phe Phe Val Ser Lys Arg Ile Phe Glu  
1 15  
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys  
20 25 30  
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp  
35 40 45  
Ile Lys Gln Glu Thr Val Gln Arg Tyr Met Lys Asn Leu Arg Ala  
50 55 60

(2) INFORMATION FOR SEQ ID NO:81:

- (1) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 63 amino acids  
(B) TYPE: amino acid  
(C) TOPLOGY: linear

(11) MOLECULE TYPE: Protein

100

## ( 1 )

- (A) LENGTH: of amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear

## ( i i )

## 1003

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Pro | Ser | Pro | Cys | Cys | Met | Phe | Phe | Val | Ser | Lys | Arg | Ile | Pro | Glu |
| 1   |     |     |     | 6   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Asn | Arg | Val | Val | Ser | Tyr | Gln | Leu | Ser | Ser | Arg | Ser | Thr | Cys | Leu | Lys |
|     |     |     | 10  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Ala | Gly | Val | Ile | Ile | Thr | Thr | Lys | Lys | Gly | Gln | Gln | Phe | Cys | Gly | Asp |
|     |     | 20  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Ile | Lys | Gln | Gln | Thr | Val | Gln | Arg | Tyr | Met | Lys | Asn | Leu | Asp | Ala | Lys |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |

1.  $\frac{1}{2}$  2.  $\frac{1}{3}$  3.  $\frac{1}{4}$  4.  $\frac{1}{5}$  5.  $\frac{1}{6}$  6.  $\frac{1}{7}$  7.  $\frac{1}{8}$  8.  $\frac{1}{9}$  9.  $\frac{1}{10}$  10.  $\frac{1}{11}$  11.  $\frac{1}{12}$  12.  $\frac{1}{13}$  13.  $\frac{1}{14}$  14.  $\frac{1}{15}$  15.  $\frac{1}{16}$  16.  $\frac{1}{17}$  17.  $\frac{1}{18}$  18.  $\frac{1}{19}$  19.  $\frac{1}{20}$  20.  $\frac{1}{21}$  21.  $\frac{1}{22}$  22.  $\frac{1}{23}$  23.  $\frac{1}{24}$  24.  $\frac{1}{25}$  25.  $\frac{1}{26}$  26.  $\frac{1}{27}$  27.  $\frac{1}{28}$  28.  $\frac{1}{29}$  29.  $\frac{1}{30}$  30.  $\frac{1}{31}$  31.  $\frac{1}{32}$  32.  $\frac{1}{33}$  33.  $\frac{1}{34}$  34.  $\frac{1}{35}$  35.  $\frac{1}{36}$  36.  $\frac{1}{37}$  37.  $\frac{1}{38}$  38.  $\frac{1}{39}$  39.  $\frac{1}{40}$  40.  $\frac{1}{41}$  41.  $\frac{1}{42}$  42.  $\frac{1}{43}$  43.  $\frac{1}{44}$  44.  $\frac{1}{45}$  45.  $\frac{1}{46}$  46.  $\frac{1}{47}$  47.  $\frac{1}{48}$  48.  $\frac{1}{49}$  49.  $\frac{1}{50}$  50.  $\frac{1}{51}$  51.  $\frac{1}{52}$  52.  $\frac{1}{53}$  53.  $\frac{1}{54}$  54.  $\frac{1}{55}$  55.  $\frac{1}{56}$  56.  $\frac{1}{57}$  57.  $\frac{1}{58}$  58.  $\frac{1}{59}$  59.  $\frac{1}{60}$  60.  $\frac{1}{61}$  61.  $\frac{1}{62}$  62.  $\frac{1}{63}$  63.  $\frac{1}{64}$  64.  $\frac{1}{65}$  65.  $\frac{1}{66}$  66.  $\frac{1}{67}$  67.  $\frac{1}{68}$  68.  $\frac{1}{69}$  69.  $\frac{1}{70}$  70.  $\frac{1}{71}$  71.  $\frac{1}{72}$  72.  $\frac{1}{73}$  73.  $\frac{1}{74}$  74.  $\frac{1}{75}$  75.  $\frac{1}{76}$  76.  $\frac{1}{77}$  77.  $\frac{1}{78}$  78.  $\frac{1}{79}$  79.  $\frac{1}{80}$  80.  $\frac{1}{81}$  81.  $\frac{1}{82}$  82.  $\frac{1}{83}$  83.  $\frac{1}{84}$  84.  $\frac{1}{85}$  85.  $\frac{1}{86}$  86.  $\frac{1}{87}$  87.  $\frac{1}{88}$  88.  $\frac{1}{89}$  89.  $\frac{1}{90}$  90.  $\frac{1}{91}$  91.  $\frac{1}{92}$  92.  $\frac{1}{93}$  93.  $\frac{1}{94}$  94.  $\frac{1}{95}$  95.  $\frac{1}{96}$  96.  $\frac{1}{97}$  97.  $\frac{1}{98}$  98.  $\frac{1}{99}$  99.  $\frac{1}{100}$  100.  $\frac{1}{101}$  101.  $\frac{1}{102}$  102.  $\frac{1}{103}$  103.  $\frac{1}{104}$  104.  $\frac{1}{105}$  105.  $\frac{1}{106}$  106.  $\frac{1}{107}$  107.  $\frac{1}{108}$  108.  $\frac{1}{109}$  109.  $\frac{1}{110}$  110.  $\frac{1}{111}$  111.  $\frac{1}{112}$  112.  $\frac{1}{113}$  113.  $\frac{1}{114}$  114.  $\frac{1}{115}$  115.  $\frac{1}{116}$  116.  $\frac{1}{117}$  117.  $\frac{1}{118}$  118.  $\frac{1}{119}$  119.  $\frac{1}{120}$  120.  $\frac{1}{121}$  121.  $\frac{1}{122}$  122.  $\frac{1}{123}$  123.  $\frac{1}{124}$  124.  $\frac{1}{125}$  125.  $\frac{1}{126}$  126.  $\frac{1}{127}$  127.  $\frac{1}{128}$  128.  $\frac{1}{129}$  129.  $\frac{1}{130}$  130.  $\frac{1}{131}$  131.  $\frac{1}{132}$  132.  $\frac{1}{133}$  133.  $\frac{1}{134}$  134.  $\frac{1}{135}$  135.  $\frac{1}{136}$  136.  $\frac{1}{137}$  137.  $\frac{1}{138}$  138.  $\frac{1}{139}$  139.  $\frac{1}{140}$  140.  $\frac{1}{141}$  141.  $\frac{1}{142}$  142.  $\frac{1}{143}$  143.  $\frac{1}{144}$  144.  $\frac{1}{145}$  145.  $\frac{1}{146}$  146.  $\frac{1}{147}$  147.  $\frac{1}{148}$  148.  $\frac{1}{149}$  149.  $\frac{1}{150}$  150.  $\frac{1}{151}$  151.  $\frac{1}{152}$  152.  $\frac{1}{153}$  153.  $\frac{1}{154}$  154.  $\frac{1}{155}$  155.  $\frac{1}{156}$  156.  $\frac{1}{157}$  157.  $\frac{1}{158}$  158.  $\frac{1}{159}$  159.  $\frac{1}{160}$  160.  $\frac{1}{161}$  161.  $\frac{1}{162}$  162.  $\frac{1}{163}$  163.  $\frac{1}{164}$  164.  $\frac{1}{165}$  165.  $\frac{1}{166}$  166.  $\frac{1}{167}$  167.  $\frac{1}{168}$  168.  $\frac{1}{169}$  169.  $\frac{1}{170}$  170.  $\frac{1}{171}$  171.  $\frac{1}{172}$  172.  $\frac{1}{173}$  173.  $\frac{1}{174}$  174.  $\frac{1}{175}$  175.  $\frac{1}{176}$  176.  $\frac{1}{177}$  177.  $\frac{1}{178}$  178.  $\frac{1}{179}$  179.  $\frac{1}{180}$  180.  $\frac{1}{181}$  181.  $\frac{1}{182}$  182.  $\frac{1}{183}$  183.  $\frac{1}{184}$  184.  $\frac{1}{185}$  185.  $\frac{1}{186}$  186.  $\frac{1}{187}$  187.  $\frac{1}{188}$  188.  $\frac{1}{189}$  189.  $\frac{1}{190}$  190.  $\frac{1}{191}$  191.  $\frac{1}{192}$  192.  $\frac{1}{193}$  193.  $\frac{1}{194}$  194.  $\frac{1}{195}$  195.  $\frac{1}{196}$  196.  $\frac{1}{197}$  197.  $\frac{1}{198}$  198.  $\frac{1}{199}$  199.  $\frac{1}{200}$  200.  $\frac{1}{201}$  201.  $\frac{1}{202}$  202.  $\frac{1}{203}$  203.  $\frac{1}{204}$  204.  $\frac{1}{205}$  205.  $\frac{1}{206}$  206.  $\frac{1}{207}$  207.  $\frac{1}{208}$  208.  $\frac{1}{209}$  209.  $\frac{1}{210}$  210.  $\frac{1}{211}$  211.  $\frac{1}{212}$  212.  $\frac{1}{213}$  213.  $\frac{1}{214}$  214.  $\frac{1}{215}$  215.  $\frac{1}{216}$  216.  $\frac{1}{217}$  217.  $\frac{1}{218}$  218.  $\frac{1}{219}$  219.  $\frac{1}{220}$  220.  $\frac{1}{221}$  221.  $\frac{1}{222}$  222.  $\frac{1}{223}$  223.  $\frac{1}{224}$  224.  $\frac{1}{225}$  225.  $\frac{1}{226}$  226.  $\frac{1}{227}$  227.  $\frac{1}{228}$  228.  $\frac{1}{229}$  229.  $\frac{1}{230}$  230.  $\frac{1}{231}$  231.  $\frac{1}{232}$  232.  $\frac{1}{233}$  233.  $\frac{1}{234}$  234.  $\frac{1}{235}$  235.  $\frac{1}{236}$  236.  $\frac{1}{237}$  237.  $\frac{1}{238}$  238.  $\frac{1}{239}$  239.  $\frac{1}{240}$  240.

1

- (A) LENGTH: 66 amino acids  
(P) TYPE: amino acid  
(S) TO: 100%: 100%

11: Lys Glu Ala Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys  
 1 5 10

12: Lys  
 1

3. INFORMATION FOR SEQ ID NO:90:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 67 amino acids  
 (B) TYPE: amino acid  
 (C) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:90:

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu  
 1 5 10 15

Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys  
 20 25 30 35

Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Ala Asp  
 40 45 50

Pro Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys  
 55 60 65

Gln Lys Lys  
 66

4. INFORMATION FOR SEQ ID NO:91:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 68 amino acids  
 (B) TYPE: amino acid  
 (C) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:91:

Met Ile Val Cys Tyr Ser Phe Thr Val Glu Ile Asn Ile  
 1 5 10 15

Asn Arg Val Ser Tyr Val Leu Ser Ser Arg Ser Thr Cys Leu Lys  
 20 25 30 35

Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Ala Asp  
 40 45 50

Pro Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys  
 55 60 65

Gln Lys Lys  
 66

(x) INFORMATION FOR SEQ ID NO:102:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 67 amino acids  
 (B) TYPE: amine acid  
 (C) TOPOLOGY: linear  
 (ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:102:

```
Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu
1          5          10
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20          25          30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
35          40          45
Pro Lys Gln Glu Thr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
50          55          60
Gln Lys Lys Ala Ser
65
```

(x) INFORMATION FOR SEQ ID NO:103:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 70 amino acids  
 (B) TYPE: amine acid  
 (C) TOPOLOGY: linear  
 (ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:103:

```
Met Phe Ser Phe Cys Cys Met Phe Phe Val Ser Lys Arg Ile Phe Glu
1          5          10
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20          25          30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
35          40          45
Pro Lys Gln Glu Thr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
50          55          60
Gln Lys Lys Ala Ser
65
```

(x) INFORMATION FOR SEQ ID NO:104:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 70 amino acids  
 (B) TYPE: amine acid  
 (C) TOPOLOGY: linear

(E) TYPE: amino acid  
(F) TOPOLOGY: linear

(II) MOLECULE TYPE: protein

(III) SEQUENCE DESCRIPTION: SEQ ID NO:94:

```

Met Ile Ser Pro Cys Cys Met Ile Ile Val Ser Lys Arg Ile Pro Gln
1          5          10          15
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20          25          30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Ile Cys Gly Asn
35          40          45
Pro Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
50          55          60
Gln Lys Lys Ala Ser Pro Arg
65          70

```

(IV) INFORMATION FOR SEQ ID NO:95:

(I) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 72 amino acids  
(E) TYPE: amino acid  
(F) TOPOLOGY: linear

(II) MOLECULE TYPE: protein

(III) SEQUENCE DESCRIPTION: SEQ ID NO:95:

```

Met Ile Ser Phe Cys Cys Met Ile Ile Val Ser Lys Arg Ile Pro Gln
1          5          10          15
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20          25          30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Ile Cys Gly Asn
35          40          45
Leu Lys Glu Glu Thr Val Glu Arg Arg Ser Tyr Asn Leu Arg Ala Lys
50          55          60
Gln Lys Lys Ala Ser Pro Arg
65          70

```

(IV) INFORMATION FOR SEQ ID NO:96:

(I) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 72 amino acids  
(E) TYPE: amino acid  
(F) TOPOLOGY: linear

(II) MOLECULE TYPE: protein

(1) SEQUENCE DESCRIPTION: SEQ ID NO:96:

```

Met Ile Ser Ile Cys Cys Met Phe Phe Val Ser Lys Arg Ile Ile Gln
1          10          20
Asn Asn Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
25
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Thr Cys Gly Asp
30          40          45
Pro Lys Gln Gln Thr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
50          55          60
Gln Lys Lys Ala Ser Pro Arg Ala Arg
65          70

```

(2) INFORMATION FOR SEQ ID NO:97:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 74 amino acids
  - (B) TYPE: amino acid
  - (C) TOPOLOGY: linear
- (ii) MOLECULE TYPE: protein

(iii) SEQUENCE DESCRIPTION: SEQ ID NO:97:

```

Met Ile Ser Ile Cys Cys Met Phe Phe Val Ser Lys Arg Ile Ile Gln
1          10          15
Asn Asn Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20          25          30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Thr Cys Gly Asp
35          40          45
Ile Lys Gln Gln Thr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
50          55          60
Gln Lys Lys Ala Ser Pro Arg Ala Arg
65          70

```

(iv) INFORMATION FOR SEQ ID NO:98:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 74 amino acids
  - (B) TYPE: amino acid
  - (C) TOPOLOGY: linear
- (ii) MOLECULE TYPE: protein

(iii) SEQUENCE DESCRIPTION: SEQ ID NO:98:

Met Pro Ser His Cys Cys Met Phe Phe Val Ser Lys Arg Ile His Glu  
1 10 15  
Asn Arg Val Val Ser Tyr -Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys  
20 25  
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asn  
30 35 40 45  
Ile Lys Gln Gln Trp Val Gln Arg Tyr Met Lys Asn Leu Arg Ala Lys  
50 55 60  
Gln Lys Lys Ala Ser Pro Arg Ala Arg Ala Val  
65 70 75

(2) INFORMATION FOR SEQ ID NO:99:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 76 amino acids
  - (B) TYPE: amino acid
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:99:

Met Pro Ser His Cys Cys Met Phe Phe Val Ser Lys Arg Ile Phe Glu  
1 10 15  
Asn Arg Val Val Ser Tyr -Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys  
20 25  
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asn  
30 35 40 45  
Ile Lys Gln Gln Trp Val Gln Arg Tyr Met Lys Asn Leu Arg Ala Lys  
50 55 60  
Gln Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala  
65 70 75

(2) INFORMATION FOR SEQ ID NO:100:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 76 amino acids
  - (B) TYPE: amino acid
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:100:

Met Pro Ser His Cys Cys Met Phe Phe Val Ser Lys Arg Ile Phe Glu  
1 10 15  
Asn Arg Val Val Ser Tyr -Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys  
20 25  
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asn  
30 35 40 45  
Ile Lys Gln Gln Trp Val Gln Arg Tyr Met Lys Asn Leu Arg Ala Lys  
50 55 60  
Gln Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala  
65 70 75

Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Tyr Gly Arg  
35 45  
Pro Lys Gln Thr Thr Val Gln Arg Tyr Met Lys Asn Leu Asn Lys Tyr  
55 65  
Gln Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val  
65 75

(i) INFORMATION FOR SEQ ID NO:101:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 78 amino acids
  - (B) TYPE: amino acid
  - (C) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:101:

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Gln  
1 5 10  
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys  
15 25 30  
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Tyr Gly Arg  
35 45 50  
Pro Lys Gln Gln Thr Val Gln Arg Tyr Met Lys Asn Leu Asn Ala Lys  
55 65  
Gln Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys  
65 75

(i) INFORMATION FOR SEQ ID NO:102:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 78 amino acids
  - (B) TYPE: amino acid
  - (C) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:102:

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Gln  
1 5 10  
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys  
15 25 30  
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Tyr Gly Arg  
35 45 50  
Pro Lys Gln Gln Thr Val Gln Arg Tyr Met Lys Asn Leu Asn Ala Lys  
55 65  
Gln Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys  
65 75

Met Lys Lys Ala Ser Ile Arg Ala Arg Ala Val Ala Val Lys Gly  
1 5 10

(i) INFORMATION FOR SEQ ID NO: 103:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 60 amino acids
  - (B) TYPE: amino acid
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 103:

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu  
1 5 10  
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys  
20 30  
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp  
35 40 45  
Pro Lys Gln Glu Trp Val Gln Ala Tyr Met Lys Asn Leu Asp Ala Lys  
50 55  
Gln Lys Lys Ala Ser Ile Arg Ala Arg Ala Val Ala Val Lys Gly Pro  
60 65

(i) INFORMATION FOR SEQ ID NO: 104:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 81 amino acids
  - (B) TYPE: amino acid
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 104:

Met Ile Ser Ile Cys Thr Ile Phe Ile Val Ser Lys Ala Ile Ile Glu  
1 5 10  
Asn Arg Val Val Ser Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr  
15 20 25 30 35 40 45 50 55 60 65 70 75 80 81  
Gln Lys Lys Ala Ser Ile Arg Ala Arg Ala Val Ala Val Lys Gly Pro  
85 90 95 100 105 110 115 120 125 130 135 140 145 150 155 160 165 170 175 180 185 190 195 200 205 210 215 220 225 230 235 240 245 250 255 260 265 270 275 280 285 290 295 300 305 310 315 320 325 330 335 340 345 350 355 360 365 370 375 380 385 390 395 400 405 410 415 420 425 430 435 440 445 450 455 460 465 470 475 480 485 490 495 500 505 510 515 520 525 530 535 540 545 550 555 560 565 570 575 580 585 590 595 600 605 610 615 620 625 630 635 640 645 650 655 660 665 670 675 680 685 690 695 700 705 710 715 720 725 730 735 740 745 750 755 760 765 770 775 780 785 790 795 800 805 810 815 820 825 830 835 840 845 850 855 860 865 870 875 880 885 890 895 900 905 910 915 920 925 930 935 940 945 950 955 960 965 970 975 980 985 990 995 1000

Val

INFORMATION FOR SEQ ID NO:109:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 82 amino acids
  - (B) TYPE: amino acid
  - (C) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:109:

```
Met Pro Ser His Cys Cys Met His His Val Ser Lys Arg Ile Pro Glu
 1             5             10
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
 20             25             30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
 35             40             45
Pro Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
 50             55             60
Gln Lys Lys Ala Ser Pro Asn Ala Arg Ala Val Ala Val Lys Gly Ile
 65             70             75             80
Val Gln
```

(i) INFORMATION FOR SEQ ID NO:109:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 83 amino acids
  - (B) TYPE: amino acid
  - (C) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:109:

```
Met Pro Ser His Cys Cys Met His His Val Ser Lys Arg Ile Pro Glu
 1             5             10
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
 20             25             30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
 35             40             45
Pro Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
 50             55             60
Gln Lys Lys Ala Ser Pro Asn Ala Arg Ala Val Ala Val Lys Gly Ile
 65             70             75             80
Val Gln
```

[illegible]

- ```

(1) NAME: BADA 100000000
(2) LENGTH: 84 amino acids
(3) TYPE: amino acid
(4) TOP 10: linear

```

(11) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:107:

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu  
1 5 10 15

Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys  
20 25 30

Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp  
35 40 45

Pro Lys Gln Gln Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys  
50 55 60

Gln Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro  
65 70 75 80

Val Gln Asn Tyr

(7) THE REACTION  $H + SF_6$  ID NO:108:

4. PERFORMANCE CHARACTERISTICS:

- 100 LENGTH: 85 amino acids  
 101 TYPE: amino acid  
 102 TYPE: amino acid  
 103 TYPE: linear

[illegible]

THE UNIVERSITY OF CHICAGO PRESS, 5 EAST LEXINGTON AVENUE, NEW YORK, N.Y. 10017-2453

Gln Lys Lys Ala Ser Ile Arg Ala Val Ala Val Lys Gly Ile  
1 20 70 80

Val Gln Arg Lys Ile  
81

(7) INFORMATION FOR SEQ ID NO:109:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 86 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:109:

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu  
1 5 10 15  
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys  
20 25 30  
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp  
35 40 45  
Pro Lys Gln Gln Tyr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys  
50 55  
Gln Lys Lys Ala Ser Ile Arg Ala Arg Ala Val Ala Val Lys Gly Ile  
60 65 70 75 80  
Val Gln Ala Tyr Pro Gly  
85

(7) INFORMATION FOR SEQ ID NO:110:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 81 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:110:

Met Ile Val Ser Lys Val Ile Ile Val Ser Tyr Arg Ile Ile Asp  
1 10 20 30 40 50 60 70 80  
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys  
90 100 110  
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp  
120 130 140 150  
Pro Lys Gln Gln Tyr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys  
160 170 180 190  
Gln Lys Lys Ala Ser Ile Arg Ala Arg Ala Val Ala Val Lys Gly Ile  
200 210 220 230 240  
Val Gln Ala Tyr Pro Gly  
250

50 60  
 Gln Lys Lys Ala Ser Ile Arg Ala Arg Ala Val Ala Val Lys Gly Ile  
 65 75  
 Val Gln Ala Tyr Ile Gly Asn  
 85

(i) INFORMATION FOR SEQ ID NO:111:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 88 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:111:

Met Pro Ser Pro Cys Cys Met Ile Phe Val Ser Lys Arg Ile Pro Glu  
 1 5 10 15  
 Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys  
 20 25 30  
 Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asn  
 35 40 45  
 Pro Lys Gln Gln Tyr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys  
 50 55 60  
 Gln Lys Lys Ala Ser Ile Arg Ala Arg Ala Val Ala Val Lys Gly Ile  
 65 70 75 80  
 Val Gln Ala Tyr Ile Gly Asn Gln  
 85

(i) INFORMATION FOR SEQ ID NO:112:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 88 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:112:

Met Ile Ser Ser Val Val Ile Ile Val Val Lys Asn Tyr Ile Glu  
 1 5 10 15  
 Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys  
 20 25 30  
 Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asn  
 35 40 45  
 Pro Lys Gln Gln Tyr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys  
 50 55 60  
 Gln Lys Lys Ala Ser Ile Arg Ala Arg Ala Val Ala Val Lys Gly Ile  
 65 70 75 80  
 Val Gln Ala Tyr Ile Gly Asn Gln  
 85

Pro Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Arg Ala Lys  
 10 20 30 40 50 60 70 80 90  
 Gln Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Tyr Phe  
 10 20 30 40 50 60 70 80 90  
 Val Gln Arg Tyr Pro Gly Asn Gln Thr  
 85

(v) INFORMATION FOR SEQ ID NO:113:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 90 amino acids
  - (B) TYPE: amino acid
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:113:

Met Pro Ser Pro Cys Cys Met Phe Ile Val Ser Lys Arg Ile Pro Glu  
 1 5 10 15  
 Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys  
 20 25 30  
 Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp  
 35 40 45  
 Pro Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Arg Ala Lys  
 50 55 60 65  
 Gln Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro  
 65 70 75 80  
 Val Gln Arg Tyr Pro Gly Asn Gln Thr Thr  
 85

(v) INFORMATION FOR SEQ ID NO:114:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 91 amino acids
  - (B) TYPE: amino acid
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:114:

Met Pro Ser Pro Cys Cys Met Phe Ile Val Ser Lys Arg Ile Pro Glu  
 1 5 10 15

Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys  
 20 25 30

Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp  
 35 40 45

